

Special on **The Daily Star Roundtable**

How to ensure safety of launch passengers

Experts underscore need for safety

STAFF CORRESPONDENT

NAVAL architects, marine engineers and teachers of Bangladesh University of Engineering and Technology (BUET) underscored the need for an all out effort for ensuring safety of launch passengers.

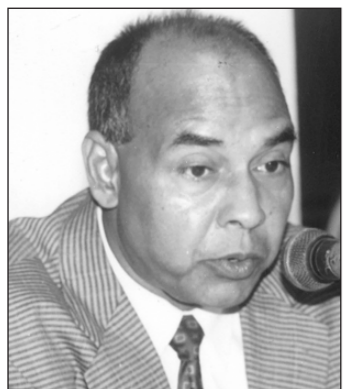
The naval architects pointed out that massive flaws in design and structure of the passenger launches plying on various river routes were the main causes of accidents.

They also blamed mushroom growth of dockyards without any expertise on shipbuilding. These yards are constructing vessels in the most rudimentary way without considering any risk factors during natural disasters.

The experts were participating at a roundtable discussion titled "How to ensure safety of launch passengers" organised by The Daily Star at its office on 29 May following the two recent ferry disasters which killed about 500 people within a month.

Referring to the accidents, naval architects observed that besides overloading and inefficiency of the masters of those passenger vessels deviation from the original design was one of the causes of accident.

"I strongly believe that most of the passenger ships in operation have massive defect in design and structure," said Dr. Abdullahel Bari, President Association of Naval Architects and Marine Engineers, Bangladesh.



Dr. Abdullahel Bari, President Association of Naval Architects and Marine Engineers.

He observed that inadequate stability was the most pertinent cause of capsizing of the launches. According to him most of the launches have high superstructure of steel making them top heavy vessels.

"To have proper design meeting the stability criteria and to ensure construction strictly as per design and thorough supervision by regulatory bodies are the remedies," he said.

He said if there was no flaw in design of the ships, they would not capsize within few seconds. Bari demanded formation of a single regulatory body through which passenger safety would be ensured. The proposed body should also work to check the deviation from the original design of ship.

Salahuddin Ahmed, another marine engineer, said passengers are not safe in most of the launches because additional weight has been added on their (vessels') top which increases the risk.

Captain Mohiuddin Abdul Kadir, general secretary, Nautical Institute (Bangladesh) Branch said that following the Meghna disaster he conducted an independent investigation. He said that there are basic design faults in most of the passenger vessels.

In most of the vessels the engine room is not watertight. In a storm when the water rushes onto the deck of the vessel, it quickly inundates the engine room and makes the vessel instantly unstable. The engine room in all the vessels must be made watertight. In this way even if the vessel sinks it will take enough time to save many lives. BUET must be given the responsibility to do the inclining test.

The technical persons said although the water transport sector has been providing the cheapest mode of transport for both people and goods, the sector hardly gets attention of the government. The allocation from the annual development programme (ADP) for the sector is very negligible, they said, demanding maintenance of the river route through regular dredging.

Most of the participants emphasised the urgent need for banning fishing nets in the navigational channels. They said that despite realising huge taxes, the BIWTA has not done anything to keep the channels safe for hundreds of vessels plying on the major routes.

Due to lack of dredging, most of the rivers have lost navigability during dry season, they said.

Senior students of BUET's Naval Architecture and Marine Engineering (NAME) department would help the inspection teams. Some private firms, which have adequate expertise, would be appointed for inspection of passenger vessels.

Abdullah Omar Siddique, Vice Chairman, Institute of Marine Engineering, Science and Technology, said that awareness must be created among the people

who use the water transport sector. He demanded that there must be on-the-spot arrangement for punishing a lawbreaker in the sector.

Captain Mohammad Enayetus Sobhan demanded that the navigational channels must be marked properly. He said an institution must be created to produce technical staff such as Masters, Sukani and Drivers.

Khabirul Haque Chowdhury, Associate Professor of BUET underscored the need for making insurance mandatory for riverine transport. He said, "If every vessel is insured, the insurance companies would ensure that safety procedures on the vessels are properly maintained."

Chowdhury said there was no need to create a separate office for the sector. He said BIWTA with all its network must be strengthened. He said all shipyards must be enlisted and regulated.

Dr Reaz Hasan Khandakar, Head of BUET's department of NAME demanded a separate regulatory body to discipline the sector. He said the Department of Shipping is already burdened with many other responsibilities and therefore fails to do their jobs properly.

He said in Narayanganj and Dhaka where about 1,500 vessels are built a year, there is only one DoS surveyor whereas in Khulna and Barisal where less than 250 vessels are built a year, there are two surveyors.

Abdur Rahim, Professor, department of NAME demanded for updating the method of evaluation and analysis of the vessels. He said that four factors -- liability, accountability, responsibility and a clear cut authority must be ensured for a healthy growth. He said that the local vessels are typically built and we should evolve our own area.

Commander (ret'd) Faizur Rahman said that Department of Shipping is mostly responsible for sea-going vessels. The Dos also does not have any naval architect to supervise the growth of the sector.

Senior students of BUET's Naval Architecture and Marine Engineering department would help the inspection teams. Some private firms, which have adequate expertise, would be appointed for inspection of passenger vehicles.

Abdullah Omar Siddique, Vice-Chairman of Institute of Marine Engineering, Science and Technology (IMEST) said design and drawing of riverine vessels shall have to be suitable and sustainable for stormy weather of the country.

He said that proper towing tank and model test should be done before finalising the drawings. "The design must incorporate safety features for free surface effect," he added.

He said launch operators should follow some basic safety measures as never loading cargo on the open deck since it makes the vessel unstable. "Cargo may be carried in only designated hatch or area and must not cross the loading limit," he said, adding that passengers should not travel on overloaded vessels and do not rush to deck if there is a stormy weather during the voyage.



PHOTO: STAR

These vessels are being built at a dockyard across Dhaka's Sadarghat, in most cases without supervision by the naval architects or marine engineers. Thousands of men work at these dockyards without proper training or safety gears.

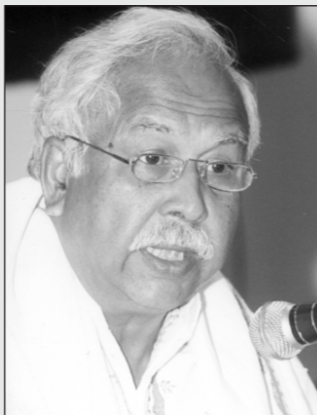
Commitments of shipping minister

SHIPPING Minister Lt. Colonel (Ret'd) Akbar Hossain committed to discipline the water transport sector for ensuring the safety of the passengers. At The Daily Star Roundtable on "How to Ensure Safety of Launch Passengers" held at the conference room of the newspaper on 29 May the minister said the government is set to implement drastic measures to ensure safety of launch passengers.

Hossain said that he would like to sit with the same panel of participants at The Daily Star roundtable in three months time to evaluate the progress of his promises.

The following are the more significant points of the commitments made by the Shipping Minister:

1. Steps will be taken to ensure faultless design of passenger vessels.
2. Monitoring teams would constantly check safety practices by the vessels. Every passenger carrier would be equipped with communication systems.
3. Skills of the vessel crew would be developed.
4. Three five-member special inspection teams would be constituted comprising representatives from the ministry, one marine engineer, one master mariner, a naval architect from the BUET and a magistrate of the respective district. The teams would function in Dhaka, Barisal



Lt. Colonel (Ret'd) Akbar Hossain Minister for Shipping

and Khulna. On the basis of quarterly reports of the teams, the faults of existing vessels would be corrected and licences and route permits of the non-complying launches would be cancelled, he said.

5. It would be made mandatory for launches to post the list of their capacity and life-saving equipment on red boards written with white letters and placed on board so that authorities concerned could check overloading of vessels on-the-spot.

6. The government would produce eight to ten prototype designs for inland vessels, having passenger capacity between 100 and 1,500. An internationally recognised firm like the Lloyds will be asked to approve these prototype designs. "These

designs will be considered as model and if anyone builds a ship in accordance with these designs he will not need any prior approval. But the investor is nonetheless free to choose any design he likes but anything outside these prototype ones would need approval by the experts," the minister said.

7. All passenger vessels would require route permits prior to their construction so that the authorities know what kind of waters these vessels would have to ply on.

8. Bangladesh University of Engineering and Technology (BUET) would be involved in the supervisory activities of plan approval, designing and vessel-building process.

9. All vessel owners will have to install communication devices, radar, and echo sounder on board during night time services. The minister said BIWTA will oversee installation of these vital equipment on the vessels at Dhaka, Chandpur, Barisal and Khulna. The BIWTA will have their control rooms to maintain communication with the vessels at different parts of the country.

10. All river going vessels have to switch over to hydraulic steering system by abandoning the present mechanical steering system between July 2001 and 2005 since mechanical steering takes too much time to change direction during storm.

11. Every large vessel has to

install two engines on board. Those which are fitted with single engines now will be given time to install an additional engine.

The government is determined to ensure proper implementation of the maritime laws in the country. All vessels now unfit for voyage will be resurveyed or re-inspected within a short period of time, the Minister maintained.

Bangladesh, has a total of 7,000 kilometre of river route in the rainy season and 5,000 kilometre during dry season. River route sector of the country transports about 33 per cent of all commuters and 42 per cent of goods. However, about 10 lakh riverine transports under 16 horse power have been exempted from registration. There are 7,000-registered river going vessels of which 2,000 are passenger carrying and the rest 5,000 are cargo vessels, according to 1976 marine ordinance.

The minister revealed that all mechanised vessels will now require registration no matter how small they are. He said his office has already directed the local administrations such as the Deputy Commissioners to register all mechanised vessels for a fee. He said to determine the exact number of all non-mechanised country boats plying on the rivers and canals, he will ask the Union Parishads to impose a fee of Tk 10 per country boat and register it.

Carriers' association seeks implementation of recommendations

STAFF CORRESPONDENT

THE chairman of Bangladesh Inland Waterways (passenger carriers') Association Alhaj Mohammad Kalim Ullah placed a number of recommendations for avoiding accidents in river transport sector.

at The Daily Star roundtable Kalim Ullah also focused on various issues relating to the water transport sector. He pointed out that accidents occur in river transport sector due to five major causes.

These are:(1) The number of efficient masters and drivers is less than the number of operating vessels in the country, (2) setting of fishing net on the navigation channels, (3) giving irregular time schedule without prior survey creating an unhealthy competition among the passenger ships, (4) lack of dredging of navigational channels and (5) lack of proper monitoring whether passengers and goods are taken on board according to the capacity of the vessel.

The recommendations made by

the chairman of Inland Water Transport (passenger carriers) Association are:

(1) Proper demarcation of river routes for operating vessels during day and night time by placing marking buoys.

(2) Ban on creating any obstruction in the demarcated navigation channels by way of setting fishing nets or any other means.

Implementation of all the decisions taken at a meeting with the shipping minister on February 10, this year. One of the major decisions was to form a committee to identify the problems and prospects of the river transport sector. But that committee is yet to be formed though four months have already passed.

Giving the schedule on the basis of carrying capacity of passenger and goods of the vessels.

Proper co-ordination among the Ministry of Shipping, Directorate of Shipping, BIWTA and launch owners' association to ensure a safe and comfortable journey for the passengers by river routes.

Keeping Bangladesh Inland Water Transport Authority (BIWTA) as a service provider instead of making it a commercial organisation.

A proper shipping policy and implementation of it for increasing the standard of service.

Preparing design of the vessel on the basis of latest technology for the greater interest of the people.

Arranging salvage vessels with 500 to 1000 ton rescuing capacity. Existing two salvage vessels -- Rustom and Hamza -- have only 120 tons rescuing capacity.

(11) Proper control on sailing of vessels from the terminal and anchorage at the terminals.

(12) Inclusion of a representative from launch owners' association in the committee whenever any accident occurred.



Alhaj Mohammad Kalim Ullah, Chairman, Bangladesh Inland Waterways (passenger carriers') Association

Water transport sector lacks govt attention

STAFF CORRESPONDENT

THE launch owners said although the water transport sector contributes significantly in moving passengers and goods it does not get necessary attention of the government.

Besides providing logistic support to and maintaining stringent monitoring of the operation of river vessels, the government should also provide special allocation for improving the overall condition of the river sector and ensure safe journey of people and transportation of goods, they maintained while speaking at The Daily Star roundtable.

They said a co-ordinated effort by the government officials, launch owners and passengers can improve the prevailing situation and check frequent accidents reducing the number of victims.

They urged the government to clear various obstacles like fishing nets in the river routes and help them in providing a safe and comfortable journey to the passengers.

They said the water transport sector has developed on its own and government had hardly any contribution in developing the sector.

On the other hand, they pointed out that the country lacks adequate number of salvage vessels as there are only two such vessels having capacity of only 120 tons each whereas there are many double decker launches weighing more than 500 tons.

The government should immediately arrange for more rescue vessels to salvage sunken launches and help in saving the lives of the passengers, the launch owners said.

"If the capacity of rescue vessels is not increased immediately, the government would face tremendous difficulty in salvaging when such a big vessel meets a tragic accident," said Alhaj Kalim Ullah, chairman of Bangladesh Inland Waterways (passenger carriers) association.

He urged every body to take lessons from the recent two severe launch mishaps in the country so that such incidents do not repeat in the future.

Kalim Ullah alleged that although there was decision of forming a high-powered committee to identify the problems and pros-

pect of the river transport sector, that was yet to be implemented even after four months. He also underscored the need for efficient performance of the members of Ansar battalion during a disaster.

Poor villagers are the main users of river routes and the sector has been providing transportation facilities at the cheapest possible price, the owners claimed. They also alleged that a number of decisions were taken by the government in the past but hardly any of them were implemented.

They questioned the capability of BIWTA in handling the pressure of passengers on launch terminals. "Terminals of people rush to the terminals every day and it is very difficult to tackle the situation when the vessels arise," said Habibul Alam, a launch owner.

He also opposed the decision of imposing strict rules and regulations by the government on the sector because it would add further financial cost to them.

The launch owners demanded inclusion of their representatives in the inquiry committee whenever an accident occurred in the river sector. "Most of the inquiry committees made partial reports without incorporating our views," said Mohammad Badiuzzaman Badal vice president of launch owner's association.

He observed that in the past the number of accidents was only a few though most of the launches were made of wood. But now, most of the vessels are steel made and the number of accidents increased, so it needs proper investigation for identifying the actual causes, Badal said.

Speaking on the occasion The Daily Star editor Mahfuz Anam observed that the passengers were the ultimate victims of negligence by the government officials and launch owners. He underscored the need for holding co-ordination meetings regularly to evaluate the progress of the decisions taken by the government.

Shahidul Islam Bhuiyan, another vice-president of the launch owners' association, said there should be a co-ordinated efforts by all concerned to regularly check the launch accidents.

How safe is our inland shipping?

ABDULLA OMAR SIDDIQUE

FLOATING in the ocean of endless problems with limited resources, at least the name of Bangladesh is there in the IMO White List, thanks to the Department of Shipping. It indicates that we have the capabilities and safe inland shipping can be ensured as such.

Reviewing the launch accidents, we have to go to the root of the problem. We must know and review the standards of design, construction, operation and maintenance, which are actually the phases of a vessel's life.

International practice for building of a new ship: To design ships, owner's requirements like length, breadth, draught, speed etc. are brought in to consideration. Draft designs are made as that suit the owners required service; for type approval, a model is made proportionate to the actual ship. Model is tested in the towing tank, artificially creating the actual situations that the ship might face during operation, to calculate its stability, resistance, speed, wind heeling force, behavior in rough weather etc. Corrections and modification are then made in the proposed plans from the findings of the model test. At this stage designs and plans are finalized and lines plans are drawn for the actual ship and approved, before the keels are laid to build ships. It follows the construction supervision, trial and subsequent operation and maintenance.

New building process for inland vessels in Bangladesh: The BIWTA Design Section prepares the designs and plans which the naval architects concerned of the same organization approve. A member of the panel of supervisors consisting 20 members of naval

architects, who are also authorized to check plans, supervises construction, calculates freeboard, stability, performs inclining test and assigns load line and issues certificates to that effect.

Registrar of the inland ships surveys and registers the vessel where the approved plans, stability and construction certificates is given by the supervising Naval Architect are prime basic requirements.

Engineer and ship surveyor carry out yearly surveys as per law, to check hull integrity, machinery, fire protection, life saving appliances and other safety equipment.

Flaws in Ship design: Inland vessels are designed at BIWTA as per a single vessel plan given by the Danish in 1980. No new innovation could yet be done due to lack of Research and Development Body in our country. Many designs are not at all safe for rough weather or heavy winds, because of open engine room in main deck where gusty water enters very easily, causing free surface effect capsizing the ship, for example MV Sallahuddin-2, MV Subha etc; no poop deck or raised quarterdeck to prevent pooping action; faulty design of fore-castle, lack of bow flare, very easy ingress of gusty water to main deck; very low hatch coaming and hatch cover not water tight; very low freeboard; unsafe, sharp and big steel fender design; lack of calculation of wind heeling moment at design stage; lack of calculation of wave crest and swell force acting on vessel at design stage; unrealistic stability calculation etc. In some cases the time span of construction and test i.e., say from approval of design to submission of documents for registration are unrealistic as well.

There is no towing tank facility or model test facility available anywhere in Bangladesh, to test

weather effects, wave and heeling moments, resistance or required engine power for a proposed vessel. As a maritime nation, it is one of the sad parts on the education, training and real life designing of type of ships in Bangladesh on our own.

There was a country boat project financed by World Bank back in 1990s to develop a sustainable country boat under IWT-3 project. Naval architects of the Naval Architecture Department of BUET made a prototype of wooden country boat after long research that had to be model tested in Kharagpur in West Bengal of India. Unfortunately the big budget project and its result prototype country boat are yet to be utilized by the poor countrymen of Bangladesh. A safe and cost effective stern reduction gear design is

yet to be implemented.

What we ought to do? Safe design and plans, appropriate construction, competent operation and maintenance are integral parts of a safe ship. There were many missions sent by IMO for safer inland shipping of Bangladesh, after the accident of MV Samia and MV Dinar. After thorough study they have suggested to bring the total inland shipping under one umbrella starting from design up to operation under the Department of Shipping, naming it as *Inland Ship Safety Administration (ISSA)*, strengthening the Department of Shipping with required number of technical manpower and required infrastructure. But that has yet not been implemented, causing day-by-day increasing loss of valuable lives and

property. *Proper manning to be provided. No unauthorized modification of structure, loading and overloading of passengers to be allowed. From now on copies of original approved plans should be permanently displayed so that any time the surveyors can catch unauthorized extension or modification of the vessels.*

Mass motivation is another most important factor. We must motivate the people to be aware of life risk on board such as : (a) overloaded launch or any vessel, (b) loading cargo on the deck, (c) rushing to the deck in bad weather which makes the launch or vessel more unstable.

Abdulla Omar Siddique, Marine Engineer (Class 1 motor, UK), MBA (UK) is Vice Chairman, Institute of Marine Engineering, Science and Technology, U.K. Bangladesh Branch.



PHOTO: STAR

A welder at work at a dockyard in Zinzira. Hundreds like him are employed to build vessels which carry thousands of passengers. These men could be trained to build ships in accordance with proper designs and raw materials.